

REMARKS

I. Status of the Claims

Claims 1-20 are pending.

Claims 1-20 stand rejected.

Claims 1, 2, 7, 8 and 15 have been amended. No new matter has been added.

II. Amendments to Claims

Applicant notes that the examiner has in describing the claimed subject matter in the Office Action, made reference to the originally filed claim language in the form of "adjacent picture carrier (NBT)." (see page 2, last line). However, applicant had, on April 26, 2002, filed a Preliminary Amendment, which is attached hereto as Exhibit A, amending claims 1, 2, 7, 8 and 15 and specifically requesting the terminology "picture carrier (NBT)" be amended to read -- channel --. As the examiner makes reference to the originally filed claim language, applicant has amended claims 1, 2, 7, 8 and 15 to insure the amendments are entered. No new matter had been or is now added to the claims.

Applicant submits that the amendments made herein are not made to overcome the prior art cited by the examiner, but are made merely to properly recite the subject matter claimed.

III. Rejection under 35 USC § 102

The examiner rejected claim 1-3, 5-9, 11-12 under 35 USC § 102(e) as allegedly being anticipated by Boie (USP 5,748,262). It is the examiner's position that "[c]onsidering [independent] claim 1, Boie discloses all claimed subject matter, note; ... is met by the circuit of FIG. 2 that comprises a Mixer 10 which is fed with the intermediate-frequency television signal via an intermediate-frequency Filter 7 and at its local-oscillator signal input with a local-oscillator signal, wherein the second pass band filter is 'being adapted to eliminate the signals of the channel adjacent to this constant frequency limit of the transposed signal..' (col. 3, lines 14-

16).” With regard to independent claim 7, it is the examiner’s position that “Boie discloses all the claimed subject matter.”

Applicant respectfully disagrees with, and explicitly traverses, the examiner’s rejection of the claims as being anticipated by the cited reference. A claim is anticipated only if each and every element recited therein is expressly or inherently described in a single prior art reference. As will be shown, and notwithstanding the amendment made to independent claims 1 or 7, neither claim 1 nor 7 is anticipated by Boie as Boie does not include each and every element claimed.

With regard to claim 1, this claim recites:

1. A frequency converter for converting an intermediate frequency television signal (s2) to a low frequency by means of a mixer (4) which is fed at its radio-frequency signal input (4.1) with the intermediate – frequency television signal (s2) via an intermediate-frequency filter (3) and at its local-oscillator-signal input (4.2) with a local-oscillator signal (u), **the frequency of the local-oscillator signal (u) lying in the range of an adjacent channel which is defined by the channel spacing (k_o ; k_o^*) and a respective television standard**, and which after the frequency conversion is suppressed as a converted adjacent channel, or at least attenuated to a negligible residual amplitude, by means of a **high-pass selectivity skirt (HP) of a filter device (5)**. [emphasis added].

Accordingly, the present invention discloses a system that converts the IF to a base band signal using a local oscillator whose value depends on the channel spacing and the television standard. In this case, the adjacent channel in the base band is near the frequency origin and is suppressed or at least attenuated by a high pass selectivity skirt of a filter device.

Boie on the other hand discloses a system for digitalizing a signal within a desired channel by using a first filter to remove a first adjacent channel, which is above a frequency of the desired channel that is considered substantially constant. (See col. 4, lines 29-31, which state, “[a] first pass-band filter 7 is chosen with an upper frequency limit 8 corresponding to the substantially constant limit 6.”) The system then transposes the remaining signal such that a

second adjacent channel is in the same relative frequency position as the first adjacent channel with respect to the desired channel (See col. 4, lines 62-67-col. 5, lines 1-20, which state, in part “[r]eferring again to Fig. 2, ... the output signal of the filter 7 is fed to the input of a mixer circuit 10 suitable for transposing the IF signal filter, illustrated in Fig. 3c, into another frequency range, taking account of the standard of the signal and its bandwidth ... The effect of transposition produced by the mixer circuit 9 is illustrated by the transition between Figs. 3C and 3D. This transposition includes a frequency shift with a mirror effect resulting in an inversion of the positions of the channels, as shown by the dashed arrows going from Fig. 3C to Fig. 3D.”).

A second filter is then used to remove the transposed second adjacent channel which is above a frequency of the transposed desired channel that is substantially constant. (See col. 5, lines 39-42, which state “[t]he band-pass of this second filter SAW is represented by a substantially rectangular window 14 ... The upper limit 15 corresponds to the substantially constant value of the upper limit 5a of the transposed signal to be processed.”).

Accordingly, the filter processing of Boie, performed at IF, isolates the desired channel from the original signal. Furthermore, the filter 13 of Boie removes the adjacent channel by its low-pass selectivity skirt (HP), which is located above the highest frequency of the desired channel-this means the selection must operate at a much higher frequency range than in the present invention. Therefore, the selectivity skirt of Boie is more critical to define and to realize than the simple low frequency selectivity skirt of the invention. Its slope is not critical whether in its relative low frequency range or in its demand of the steepness of the slope.

Boie further discloses that “the frequency of the signal obtained at the output of the filter 13 is too high to be handled with sufficient dynamic resolution ... The output signal 3a of the filter 13, shown ... in Fig. 4A is therefore fed to a converter circuit ... [that] includes a multiplier 18 of which one input is connected to the output of the filter and to another input receives the

output signal from an oscillator at local frequency f_{lo1} . The frequency f_{lo1} ...illustrated in Fig 4B is **constant** and preferably adjustable according to the standard of the chosen TV channel.” (see col. 6, lines 3-14). [emphasis added]. Furthermore, “[t]he output signal from circuit 17 is fed ... to the input of a low pass filter ...[that] removes all the radio frequency components from the signal.” (see col. 6, lines 21-24).

Boie cannot be said to anticipate the present invention because Boie does not disclose performing baseband conversion using a LO frequency based on channel spacing and TV standard. Nor does Boie disclose suppressing converted adjacent channel, or at least attenuated to a negligible residual amplitude, by means of a **high-pass selectivity skirt**, as is claimed. .

Having shown that Boie does not disclose each and every element of the present invention, applicant submits that the present invention, recited in claim 1, is patently distinguished from the cited reference. Accordingly, applicant submits that the reasons for the examiner's rejection of claim 1 has been overcome and can no longer be sustained. Applicant respectfully requests reconsideration, withdrawal of the rejection and allowance of claim 1.

With regard to independent claim 7, the examiner rejected this claim citing the same reference used in rejecting claim 1. Thus, applicant's remarks made in response to the examiner's rejection of claim 1 are also applicable in response to the examiner's rejection of claim 7. Accordingly, applicant submits that in view of the remarks made with regard to the rejection of claim 1, which are repeated herein in response to the rejection of claim 7, the examiner's rejection of claim 7 can no longer be sustained. Applicant respectfully requests reconsideration, withdrawal of the rejection and allowance of claim 7.

With regard to claims 2, 3, 5-9, 11-12, these claims ultimately depend from, and include all the subject matter contained in independent claims 1 and 7, which has been shown to patently

distinguish from the cited reference and, hence, are allowable. Accordingly, claims 2, 3, 5-9, 11-12 are also believed to be allowable by virtue of their dependence on an allowable base claim.

Applicant respectfully requests reconsideration, withdrawal of the rejection and allowance of the claims.

IV. Rejection under 35 USC § 103

The examiner has rejected claims 4, 10, 13-20 und 35 USC § 103(a) as allegedly being unpatentable in view of Boie. With regard to claims 4 and 10, it is the examiner's position that "Boie discloses all claimed subject matter, except for; the claimed wherein the local-oscillator signal (u) is a square-wave, particularly a signal having the value +1 and -1; regarding claim 4 Boie doesn't appear to appear to disclose whether the local-oscillator signal (u) is a square-wave signal with the values +1 and -1. However, Boie suggests that 'he frequency of the oscillator 12 can be modified by means of a voltage U applied to the oscillator 12, in order to adapt the fixed frequency ... to the TV standard concerned' (col. 5, lines 2-5). Therefore, it would have been obvious ... to replace the oscillator frequency with a desired value and modify the system to fit a design choice."

With regard to independent claim 13, it is the examiner's position that "Boie discloses the following claimed subject matter, note; a) filtering an intermediate-frequency signal with a first filter; generating an oscillator signal (u) is met by the filter 7, Fig. 2; b) mixing said filtered intermediate-frequency signal and said oscillator signal (u) is met by the Mixer 10, Fig. 2; c) filtering said mixed signal using a second filter having a high-pass selectivity skirt located near the frequency origin and a low-pass characteristic for higher frequencies is met by the Filter 13, Fig. 2; except for: d) separating said high-pass selectivity skirt filtered signal into visual and audible components for reproduction. Regarding d) Boie doesn't disclose a method of separating the filtered signal into visual and audible components for reproduction. However, Examiner

takes Official Notice here in that separating or demodulating or demultiplexing video/image/picture and audio signal and reproducing separately is well know ... and therefore would have been obvious to the [sic] skilled in the art."

With regard to claims 15-20, the examiner rejected these claims reciting the same rejection recited in rejecting claims 2-6.

Applicant respectfully disagrees with, and explicitly traverses, the examiner's rejection of the claims. A claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

With regard to claims 4 and 10, the examiner suggests that it would be obvious to vary a voltage to obtain a square wave output of local oscillator. However, contrary to the examiner's suggestion, Boie does not disclose or suggest or provide the motivation to one skilled in the art to modify the device of Boie as suggested by the examiner. In fact, one would not be motivated to implement the alteration of the LO setting as suggested by the examiner as the voltage U is used to alter the fixed LO frequency setting that is used for each different TV standard. One would not look to Boie to alter the fixed frequency of the LO frequency setting, as suggested by the examiner, as Boie only uses the voltage U to set the LO frequency setting for the different TV standards.

Having shown that one would not look to Boie to implement the varying of the LO frequency setting, as suggested by the examiner, applicant submits that the present invention as recited in either claim 4 or 10 is not obvious in view of the reference cited. Accordingly,

reconsideration, withdrawal of the rejection and allowance of the claims is respectfully requested.

With regard to independent claim 13, contrary to the examiner's position, independent claim 13 is not obvious over the cited reference. As previously stated, Boie discloses filtering to remove channels above the desired channel and does not disclose a filter having a high-pass selectivity skirt located near the frequency origin, as is claimed in the present invention. Accordingly, independent claim 13 is not obvious in view of the cited reference as even though de-multiplexing is well known in the art, Boie would not motivate one to develop the novel features of the present invention.

With regard to claims 14-20, these claims ultimately depend from, and include all the subject matter contained in independent claim 13, which has been shown to be nonobvious in view of the cited reference and, hence, allowable. Accordingly, claims 14-20 are also believed to be allowable by virtue of their dependence on an allowable base claim.

Applicant respectfully requests reconsideration, withdrawal of the rejection and allowance of the claims.

V. Conclusion

Applicant believes all the rejections have been addressed and overcome. None of the cited references, either individually or in combination, anticipates or renders obvious, or provides the motivation to arrive at the invention as claimed. Accordingly, reconsideration, withdrawal of the rejection and allowance of the claims is respectfully requested.

If the examiner believes the prosecution of this application can be advanced by a telephone call, the examiner is invited to contact the Applicant's attorney at the telephone number indicated below.

VI. Fees

No fees are believed necessary for filing this election and response. However, the Commissioner for Patents and the examiner are hereby authorized to charge any additional fees or credit any excess payment that may be associated with this communication to Duane Morris, LLP deposit account **50-2061**.

Respectfully submitted,

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VERSION WITH MARKINGS CLEARLY SHOW CHANGES MADE

Kindly **AMEND** the Claims as follows:

Amend Claim 1:

1. (Amended) A frequency converter for converting an intermediate frequency television signal (s2) to a low frequency by means of a mixer (4) which is fed at its radio-frequency signal input (4.1) with the intermediate –frequency television signal (s2) via an intermediate-frequency filter (3) and at its local-oscillator-signal input (4.2) with a local-oscillator signal (u), the frequency of the local-oscillator signal (u) lying in the range of an adjacent [picture carrier (NBT)] channel which is defined by the channel spacing (k_0 ; k_0^*) and a respective television standard, and which after the frequency conversion is suppressed as a converted adjacent [picture carrier (NBT)] channel, or at least attenuated to a negligible residual amplitude, by means of a high-pass selectivity skirt (HP) of a filter device (5).

Amend Claim 2:

2. (Amended) The frequency converter of claim 1, wherein the frequency offset (df) of the local-oscillator signal (u) from the adjacent [picture carrier (NBT)] channel is less than the high-pass cutoff frequency (fg) of the filter device

Amend Claim 7:

7. (Amended) A frequency converter for converting an intermediate-frequency television signal (s2) to a low frequency comprising:

a mixer having a first and second inputs and an output;

a first filter being coupled to said first input of said mixer and adapted to provide an intermediate-frequency television signal (s2) thereto;

an oscillator coupled to said second input of said mixer and adapted to provide an oscillator-signal (u) lying in a range of an adjacent [picture carrier (NBT)] channel which is defined by a channel spacing (k_0 ; k_0^*) and a respective television standard; and

a second filter coupled to said output of said mixer for attenuating said adjacent [picture carrier (NBT)] channel to a negligible residual amplitude.

Amend Claim 8:

8. (Amended) The frequency converter of claim 7, wherein the frequency offset (df) of the local-oscillator signal (u) from the adjacent [picture carrier (NBT)] channel is less than the high-pass cutoff frequency (fg) of the filter device

Amend Claim 15:

15. (Amended) The method of claim 13, wherein a frequency offset (df) of the oscillator signal (u) from an adjacent [picture carrier (NBT)] channel is less than a high-pass cutoff frequency of the second filter.